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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,050	02/13/2004	Naohiro Yoshikawa	01272.100143.	3906

5514 7590 07/31/2007

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EXAMINER	
TYLER, NATHAN K	
ART UNIT	PAPER NUMBER
2625	

MAIL DATE	DELIVERY MODE
07/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/777,050	YOSHIKAWA, NAOHIRO	
	Examiner	Art Unit	
	Nathan K. Tyler	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11082006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 8, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi (US 20020149799 A1).

Regarding **claim 1**, Hayashi discloses a printing system comprising a plurality of printing apparatuses connected together so as to communicate with each other (see Fig. 1, plurality of "color copying machines" 1, 2, and 3 connected via "hub" 4), each of said printing apparatuses having a printing engine and a printing control section (each color copying machine in Fig. 1 has "printer" 13 and "controller" 15), and a density converted characteristic generating means arranged in said printing control section of one of said printing apparatuses other than the printing apparatus used for printing (see Fig. 4, copying machine 1 is used for density converted characteristic generation, copying machine 2 is used for printing) and for converting output density values corresponding to density values inputted to the printing apparatus used for printing so

that the output density values exhibit an ideal characteristic (see Fig. 10. Printer 7 prints patterns (Printer 7 is used for printing), then image processor 6 calculates calibration information ("parameters") and transmits this information back to the apparatus used for printing. "Specifically, the parameter processor 14 prepares image processing parameters (a YMCK gradation correction table) for each image mode of photograph and characters by carrying out an instrumental error correction, a texture correction and a high-density correction for each of the YMCK colors, using the calibration data and reference data and instrumental error correction values stored in advance in the ROM 131" at paragraph [0109]).

Although the "image processor" shown in Fig. 10 and the copying machine shown in Fig. 1 are different embodiments in Hayashi, it would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the density converted characteristic generating means of the copying machine shown in the embodiment of Fig. 1 as with the processing capability of the "image processor" shown in the embodiment of Fig. 10 to create converted density values. The color copying machines 1, 2, and 3 shown in Fig. 1 all contain the "parameter processor" necessary to calculate the "parameters."

Regarding **claim 3**, Hayashi discloses that the density converted characteristic generating means calibrates said output density values ("The parameter processor 14... calibrates the calibration data" at paragraph [0108]).

Regarding **claim 8**, Hayashi discloses a printing method comprising a step of instructing an external printer to generate a density converted characteristic (Fig. 10,

sending printed patterns to external printer after step S1002); a step of receiving the density converted characteristic created by said external printer in accordance with said instruction (step s1007 "receive parameters"): and a step of switching said received density converted characteristic when a print job being processed is finished (See Fig. 11. When a print job has finished, image processor 6 instructs printer 7 to start a new print job at step s1101 "instruct linkage printing." It is at this point, after one print job has finished and before the new job is printed, that the received characteristics are switched at step s1102 "select parameters").

Regarding **claim 9**, Hayashi discloses that as said external printer, one of the plurality of printers connected together via the network through which the instruction is transmitted is searched for, the one of the printers being similar to said instructing printer ("In the image formation system relating to the first embodiment, the color copying machine 1, the color copying machine 2 and the color copying machine 3 have similar structures" at paragraph [0063]).

Regarding **claim 10**, Hayashi discloses a printing method comprising a step of receiving an instruction on generation of a density converted characteristic, from an external printer (Fig. 10, patterns are received from external printer prior to step S1003); a step of generating density converted characteristic information, in accordance with said instruction, by forming patches on a medium and measuring the patches (step S1003, "mount patterns," step s1004 "read patterns," step s1005, "calculate parameters"); and a step of transmitting said generated density converted characteristic

so that the density converted characteristic can be used for a density converting process executed by said external printer (step s1006, "transmit parameters").

3. Claims 2, 4, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hayashi and Sasai (US 20010026693 A1).

Regarding **claim 2**, while Hayashi discloses the limitations of claim 1, from which claim 2 depends, Hayashi does not disclose that environmental-condition setting means for actively realizing arbitrary environmental conditions is provided in the printing apparatus which is different from said printing apparatus used for printing and which comprises said density converted characteristic generating means.

Sasai discloses a printing apparatus ("facsimile machine" at paragraph [0021], line 2) containing environmental-condition setting means for actively realizing arbitrary environmental conditions (Fig. 1, numerals 11 "fan" and 12 "heater")

It would have been obvious at the time the invention was made to one of ordinary skill in the art to provide the printing apparatuses disclosed by Hayashi with the environmental-condition setting means disclosed by Sasai, so that when the calibration process is performed, the printing apparatuses would operate within optimal conditions ("The environment condition may be temperature and/or humidity. A heater and/or a fan in the printing unit may be driven to obtain the optimum condition" at Sasai paragraph [0009]).

Regarding **claim 4**, Hayashi discloses a printing system having a first printing apparatuses used for printing, a second printing apparatus that executes a calibration process on the first printing apparatus, and a network connecting said first and second printing apparatuses together (see grounds for rejection for claim 1), wherein said second printing apparatus comprises a printing engine including a density sensor (Fig. 1, numeral 11 "scanner"), and a printing control section which acquires information from the density sensor in the printing engine to provide calibration process information to said first printing apparatus (see grounds for rejection for claim 1); and said printing control section comprises density converted characteristic generating means for converting output density values corresponding to density values inputted to an arbitrary printing apparatus used for printing so that the output density values exhibit an ideal characteristic (see grounds for rejection for claim 1).

Hayashi does not disclose temperature sensor, or a humidity sensor, nor does Hayashi disclose acquiring information from the temperature and humidity sensors in the printing engine to provide calibration process information.

Sasai discloses a printing apparatus containing temperature and humidity sensors ("outside environment of the apparatus like temperature or humidity measured by the sensor 4 and/or the inside environment of apparatus measured by sensors or detectors installed in the apparatus" at paragraph [0022]). Sasai teaches that temperature and humidity must be taken into account, as these two factors have an effect on print quality ("it prints signals without adjusting the environmental condition

such as temperature or humidity to the optimum condition for printing, and cannot secure good image quality enough" at paragraph [0006]).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to include temperature and humidity information disclosed by Sasai along with the density information for calibration purposes as disclosed by Hayashi, as considering only the density information and disregarding the temperature and humidity would result in an incomplete calibration and degraded print quality ("prints signals without adjusting the environmental condition such as temperature or humidity to the optimum condition for printing, and cannot secure good image quality enough" at Sasai paragraph [0006]).

Regarding **claim 5**, the combination of Hayashi and Sasai as applied to claim 4 discloses that the printing control section comprises environmental-condition setting means for actively realizing arbitrary environmental conditions on the basis of information from said various sensors in said printing engine ("it is determined at Step a-1 whether a current environment condition reaches an operation-assured environment... [if the current environment is not operation assured] the heater 12 and the fan 11 are driven at Step a-6 and a-7 respectively" at Sasai paragraphs [0026] – [0027]).

Regarding **claim 6**, the combination of Hayashi and Sasai as applied to claim 4 discloses a printing method used in a printing system comprising a first printing apparatuses used for printing, a second printing apparatus that executes a calibration

process on the first printing apparatus, and a network connecting the first and second printing apparatuses together (see grounds for rejection for claim 1), the method comprising: a step of sensing a temperature of the second printing apparatus when the first printing apparatus requests a calibration process from the second printing apparatus (See Hayashi Fig. 10, at step S1004 the density from the first printing apparatus is read by the second printing apparatus. During this step the temperature is read using the temperature sensor as taught by Sasai, see grounds for rejection for claim 4); a step of temperature information providing which comparing the temperature of the second printing apparatus acquired by the temperature sensing step with a temperature of the first printing apparatus to provide temperature information indicative of the need for heating or cooling (see grounds for rejection for claim 4, the temperature of the second print apparatus is compared with operation assured conditions, in this case the temperature of the first print apparatus); a step of sensing a humidity of the second printing apparatus (See Hayashi Fig. 10, at step S1004 the density from the first printing apparatus is read by the second printing apparatus. During this step the humidity is read using the humidity sensor as taught by Sasai, see grounds for rejection for claim 4); a step of humidity information providing which comparing the humidity of the second printing apparatus acquired by the humidity sensing step with a humidity of the first printing apparatus to provide humidity information indicative of the need for humidification or dehumidification (see grounds for rejection for claim 4, the humidity of the second print apparatus is compared with operation assured conditions, in this case the humidity of the first print apparatus); a step of executing a process on the basis of

information obtained from the temperature information providing step and the humidity information providing step (see grounds for rejection for claim 4, Sasai teaches running a heater or fan to adjust the internal temperature and humidity based on the sensor readings), then reading the density of each patch of a patch pattern in the second printing apparatus (Hayashi Fig. 10, S1004 "read patterns"), and generating density converted characteristic information on the basis of density results which information is required to obtain a target density characteristic (Hayashi Fig. 10, S1005 "calculate parameters").

Regarding **claim 7**, the combination of Hayashi and Sasai applied to claim 4 discloses an environmental-condition setting step of actively realizing arbitrary environmental conditions during a calibration process executed by the second printing apparatus (as taught by Sasai, the environmental conditions have to be actively adjusted during calibration or print quality will suffer. See grounds for rejection for claim 4).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan K. Tyler whose telephone number is 571-270-1584. The examiner can normally be reached on M-F 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KING Y. POON
~~PRIMARY~~ EXAMINER
Supervisory Patent

Nathan K Tyler
Examiner
Art Unit 2625